

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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In the Matter of the

Application of the  
Department of Education of the State of Tennessee  
Application Number 18132, to the  
Universal Service Administrative Company,  
Schools and Libraries Division, for  
Universal Service Fund Eligibility

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

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)  
) CC Docket Nos.  
) 96-45 and  
) 97-21  
)  
)

To: Common Carrier Bureau

**REQUEST FOR REVIEW**

of the

**STATE OF TENNESSEE**

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## **SUMMARY**

The intent of the Congress in the Snowe-Rockefeller Amendment was to provide an opportunity for every student in America to have full access to the benefits of the information services most often described as the Internet. To provide this opportunity, Tennessee has acquired an Internet Access Service from a regional Internet Service Provider ("ISP"), through competitive bidding and under the Commission's posting rules, which is among the least-cost in the nation, (at \$1.97 per student per month), and which will be made available to 900,000 students. Without USF funding, however, they will not be able to have such access to the Internet.

If the Commission, like the State and the Congress, truly intends for children in rural and isolated areas to have the same opportunities as those in urban areas, then the Commission must allow ISPs to provide Access Services as required by local conditions, and to fund the infrastructure to reach the children, as long as it can be done at reasonable rates. It is difficult to explain to rural children the unfairness of urban and affluent private school children receiving Internet Service while they are denied the same, simply because their schools are remote and Internet Service Providers cannot reach them without such improvements and Services. Approximately one-half of Tennessee schools are outside of metro areas where it is possible to get Internet access sufficient to support education. This needs to be

changed and Tennessee has proposed to change it in its Application for USF Support.

\* \* \*

In this regard, the State of Tennessee has filed an Application with the Schools and Libraries Administrative Company requesting support for Internet Access Services for its K-12 Schools. These Internet Access Services are being provided by Education Networks of America, Inc. ("ENA"), a regional Internet Service Provider ("ISP") in Tennessee. The Administrator has granted this Application as it relates to the ENA Service, but only in part. The portions of this Application which have not been funded are the subject of the State's Request for Review.

The Administrator has found that certain components of the ENA Internet Access Service are, in reality, "internal connections" and "wide area network facilities" ineligible for funding. This decision is factually and legally incorrect, and represents a fundamental misunderstanding of the Tennessee Internet Service and requirement. Thus, it should be rejected.

In Sections II and III herein, Tennessee describes the Internet Access Service, in detail, and demonstrates that it falls within the clear definition of an Internet Access Service, and that it is neither a "wide area network" nor "internal connections" under the applicable legislation, Rules, decisions and holdings, as well as under common practices in the industry. In Sections IV and V, Tennessee describes and demonstrates that the individual

components of the Internet Service cannot be separated from the Service itself in Tennessee without injustice to the Rules, and that the Rules were never intended to prevent an ISP from funding new facilities and using pre-existing components, where the result is clearly "the most cost efficient service" to the schools.

Finally, in Section VI, Tennessee demonstrates that identical Internet Access Services have been "consistently and regularly" approved for USF support by the Administrator elsewhere and that the Service is "clearly and unequivocally" in the Public Interest as well as in furtherance of the purposes of the Universal Service Fund and the mandate of the Congress.

Accordingly, the Decision of the Administrator, in this regard, should be rejected and USF funding should be approved.

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**STATE OF TENNESSEE**

The State of Tennessee ("Tennessee"), acting by and through its  
Department of Education, and pursuant to Section 54.719 of the Rules and  
Regulations ("Rules")<sup>1</sup> of the Federal Communications Commission  
("Commission" or "FCC"), herein respectfully submits its request for a review,  
in part, of the Funding Commitment Decision of the Administrator of the  
Schools and Libraries Division of the Universal Service Administrative

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<sup>1</sup> 47 C.F.R. §54.719

Company ("Decision" and "Administrator", respectively)<sup>2</sup> on the above-referenced Tennessee Application Number 18132 ("Application") for Universal Service Fund support.<sup>3</sup>

## **I. Introduction**

In its Application, Tennessee requests Universal Service Fund ("USF") support for the Internet Access Services which it obtained for the State's K-12 Schools under a competitively-awarded contract found by the Administrator (Decision, Point No. 2) to have been properly awarded by the State to Educational Networks of America, Inc. ("ENA"), a regional Internet Service Provider ("ISP"). In its Decision, the Administrator, however, granted only in part the Tennessee Application as it relates to ENA. Three (3) components of the Application, and of the offered Service, were denied.

With respect to the three (3) components of the Tennessee Application which were denied, and for which this Request for Review is submitted, the Administrator concluded that Tennessee, in its Application for support, had mistakenly included ineligible costs for "Wide Area Network"

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<sup>2</sup> Funding Commitment Letter from Fund Administrator, dated February 26, 1999, including Fund Administrator's Explanation of Funding Commitment Decisions. These are collectively referred to herein as the "Decision."

<sup>3</sup> FCC Form 471, Application of the State of Tennessee Department of Education, Application No. 18132, filed April 15, 1998.

facilities ("WANs") and "internal connections" in its eligible costs for "Internet Access Services." In this regard, the specific costs found ineligible were identified by the Administrator as the costs of: (1) the "network management protocol conversion equipment" (Decision, Point No. 3) installed, owned and operated by ENA as part of its ISP network "hub sites";<sup>4</sup> (2) the "caching servers" (Decision Point No. 4) also installed, owned and operated by ENA as a part of the ENA ISP network, to collect, update and store Internet content as a part of its ISP network; and (3) "used" Internet Access Service equipment, to the extent purchased by ENA from the State's excess inventory, on the basis that this equipment was "pre-existing equipment" and thus ineligible (Decision, Point No. 2).

Tennessee submits that the Administrator has mistakenly characterized the ENA hub site equipment as ineligible Wide Area Network facilities. The Commission's Rules, industry practices, Commission and Court decisions, and the Administrator's other holdings clearly and definitively establish ENA as an Internet Access Provider, its network as a Regional Internet Access Network, and its ISP Services thereon as eligible

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<sup>4</sup> The Administrator also denied Tennessee's request for support for the associated Internet "technical support and maintenance" services, provided by ENA as a component of its Internet Access Service, on the basis that, since the underlying hub equipment was ineligible, the ISP support and maintenance service components were likewise ineligible (Decision, Point No. 5). To the extent that the underlying hub service components of the ENA are found eligible, these costs would be eligible as well.



"Internet Access Services." Moreover, these Rules, practices, decisions and holdings also clearly and definitely distinguish Tennessee's Internet Access Service from a WAN.

Further, these same Rules, practice, decisions and holdings clearly and definitively distinguish ENA "caching servicers" both from WANs and from "Internal connections", the only other possible category of service.

Tennessee submits that "caching servers" (as contrasted to "file servers") are an integral part of ISP Service and thus, for the same reasons noted above, of the eligible Internet Access Service provided by ENA. From a practical and policy perspective, "caching servers" and "hub routers" cannot be, and should not be, separated from the characterization of Internet Access Service.

Finally, the Administrator's Decision to deny support for "used" ConnecTEN components, but only if purchased from the State, also is contrary to the Commission's Rules and policies. Most importantly, however, denying funding is contrary to the public interest. As long as reasonable safeguards are incorporated, such a transaction is the only manner in which the State, the Commission and the local schools can ensure that "the most cost efficient" Internet Access Service is obtained, and that the State can meet its own Procurement Code requirements in this regard along with those of the USF.

## **II. The Education Hub Sites Are an Integral Part of Internet Access Service**

The Internet Access Service provided by ENA to Tennessee, just as those of other providers, includes routers, servers and telecommunications lines at strategic locations in the ISP network. The Administrator found the routers and servers installed "for protocol conversion and network management" in the ENA ISP regional network "hubs" to be ineligible because they are "not part of an Internet Access Service" (Decision Point No. 3, page 4). In this regard, the Administrator found that "the router and server costs are incurred to fund the ENA purchase and installation of hub facilities, not for Internet Access Service." (Decision Point No. 3, page 5). The Administrator took this decision recognizing that the installation of the routers and servers is solely "for the purpose of providing Internet Access." (Decision Point No. 3, page 5). The stated basis for the Administrator's finding is that this hub site equipment constitutes wide area network ("WAN") facilities, ineligible for support. (Decision Point No. 3, page 5).

The Administrator's conclusions are not supported by the facts and are incorrect based on established Commission policy and industry practice. First, the routers and caching servers at the ENA regional hub clearly and definitively fall within the gamut of "Internet Access", as defined by the

Commission in various rulings. Significantly, Section 54.5 of the Commission's Rules provides:

Internet access includes the following elements: (1) the transmission of information as common carriage; (2) the transmission of information as part of a gateway to an information service, when that transmission does not involve the generation or alteration of the content of information, but may include data transmission, address translation, protocol conversion, billing management, introductory information content, and navigational systems that enable users to access information services, and that do not affect the presentation of such information to users; and (3) electronic mail services (e-mail).<sup>5</sup>

When the Commission adopted this definition of Internet Access, it also clearly recognized that "information service data links" (whether achieved via routers, servers, or hubs) are necessary components of Internet Access. For example, the Federal-State Joint Board ("Joint Board") stated that Internet Access should "include the communications link to the Internet service provider [and] the links to other Internet sites via the Internet backbone."<sup>6</sup> The Commission ultimately adopted the Joint Board's recommendations regarding Internet access.<sup>7</sup> The Commission went even further to state that "without the use of these 'information service data links', schools and libraries would not be able to obtain access to the

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<sup>5</sup> 47 C.F.R. § 54.5.

<sup>6</sup> In the Matter of Federal-State Joint Board on Universal Service, Report and Order, FCC 97-157, 12 FCC Rcd 8776, at ¶ 428 (1997) ("Universal Service Order").

<sup>7</sup> Id. at ¶¶ 436-49.

'research information, [and] statistics' available free of charge on the Internet."<sup>8</sup>

In discussing and defining the nature of Internet Access, the Commission has never separated the various pieces that make up "data links" and, hence, enable such access, into distinct parts. Rather, the Commission has viewed Internet Access Service as a conglomerate of services, involving "data transport, data processing, information provision, and other computer-mediated offerings, thereby creating an information service."<sup>9</sup> More recently, the Commission has stated that, for jurisdictional purposes, ISP traffic should be characterized as "a continuous transmission from the end user to a distant Internet site."<sup>10</sup> The Commission determined in its review of jurisdictional treatment of calls to an ISP, that the various segments of a call from an end-user to an Internet Service Provider should not be considered on an individual basis. Rather, the communication starts at the end user's calling premises, and ends at an Internet website.<sup>11</sup> In its analysis of ISP traffic, the

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<sup>8</sup> Id. at ¶ 441.

<sup>9</sup> In the Matter of Federal-State Joint Board on Universal Service, Report to Congress, FCC 98-67, 13 FCC Rcd 11522, at ¶¶ 80-81 (1998) ("Universal Service Report to Congress").

<sup>10</sup> In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Declaratory Ruling and Notice of Proposed Rulemaking, FCC 99-38, CC Docket Nos. 96-98, 99-68, at ¶ 13 (released Feb. 26, 1999) ("Reciprocal Compensation Order").

<sup>11</sup> Id. at ¶ 12.

Commission stated that it "analyzes the totality of the communication when determining the jurisdictional nature of a communication,"<sup>12</sup> and "consistently has rejected attempts to divide communications at any intermediate points of switching or exchanges between carriers."<sup>13</sup> Thus, the routers and servers at the ISP hub sites are an integral part of an eligible "Internal Access Service." There can be no reasonable doubt, and the children of Tennessee confirm that this is an Internet Service every day their computers reach the web.

The Administrator also appears to deny funding for these two components of the State's Internet Access Service by asserting that the associated Internet Access Service costs, as set forth in the State's Application, are for ENA "to fund the purchase and installation" of its Internet

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<sup>12</sup> Id. at ¶ 13.

<sup>13</sup> Id. at ¶ 10. *See, e.g.,* Petition for Emergency Relief and Declaratory Ruling Filed by BellSouth Corporation, 7 FCC Rcd 1619 (1992); *Teleconnect Co. v. Bell Telephone Co. of Penn.*, 10 FCC Rcd 1626 (1995), *aff'd sub nom. Southwestern Bell Tel. Co. v. F.C.C.*, 116 F.3d 593 (D.C. Cir. 1997). Similarly, the newly enacted Internet Tax Freedom Act does not distinguish between "components" of the Internet for taxation purposes. In that context, the Internet is defined as "collectively the myriad of computer and telecommunications facilities, including equipment and operating software, which comprise the interconnected worldwide network of networks that employ the Transmission Control Protocol/Internet Protocol, or any predecessor or successor protocols to such protocol, to communicate information of all kinds by wire or radio." Pub. L. No. 105-277, § 1104 (1998).

network facilities, rather than for providing an Internet Access Service to the State schools.<sup>14</sup>

Neither Tennessee, nor any Applicant, can dictate or guarantee the purposes to which its "Internet Access Service" fees are used. Tennessee released an RFP for an "Internet Access Service." This was done under the State Procurement Rules, and then again under the Commission's USF Competitive Posting Rules. It received a number of responses to that RFP and it subsequently awarded a contract to ENA for this "Internet Access Service." This process was approved by the State and by the Administrator, and the service used is solely for Internet Access.

The fact that ENA may now utilize the State's Internet Access Service fees "to fund" its network expansions, "installations and equipment purchases" does not change the character of the Internet Access Service which the State acquired, or render it ineligible for funding. To consider otherwise would be to place the State and the Commission in the untenable position of looking into, and constantly monitoring, the accounts of every Internet Service Provider.

It is evident from industry forecasts and Commission rulings that the Internet has not fully evolved and infrastructure is not in place except in

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<sup>14</sup> To the extent that the Administrator appears to believe, in the alternative, that these costs are used by ENA "to fund WAN facilities", or that such funding converts an Internet Service to a "WAN Service", this is addressed in Section III(C)below.

metropolitan areas. However, Congress and the Commission fully intended that Internet Access be eligible especially for schools in rural and high cost areas. It is good public policy to allow USF funds to assist in extending this infrastructure.

In Tennessee's situation, the decision was not made for broadband or high-speed video services but Internet Access to support 50 to 250 computers per school (equivalent to 3 hours Internet Access per child per week). Yet Tennessee's rural nature requires infrastructure even at this level to support every school and every child. Tennessee's costs are comparable to T-1 rates obtained by private schools in urban areas where the infrastructure exists, confirming that its aggregation saved substantial dollars. If the Commission truly intends for children in rural and isolated areas to have the same opportunities as those in urban areas, then there is no choice but to allow an ISP to extend the infrastructure as long as it can be done at reasonable rates through competitive bidding. It is difficult to explain to rural children the obvious unfairness of urban and affluent private school children receiving Internet Service while they are denied the same Service. Thus, the fact is that these USF fees should be used by an ISP "to fund" expansion and equipment to provide its Internet Access Service, particularly in rural areas.

The fact that a State, by joining its schools together to purchase Internet Access Services in the aggregate, can achieve both large economies

of scale and "market power", which in turn results in the ability to "drive" ISPs to build new facilities for their Services and to install new equipment to market new more efficient Services to this large user group--and thereby to attract new Service fees, does not render the Service ineligible.<sup>15</sup> Rather, the exact reverse is true, it renders the Service, the only eligible Service, as the "most cost efficient " alternative under the Commission's and the State's Rules.<sup>16</sup>

In Tennessee, this position was optimized. Tennessee is a very rural State, with many small and remote mountain schools. The State's largest regional ISP, BellSouth.net, offers Internet Service only in the State's four (4) largest metropolitan areas; all other community schools are required to incur a toll-charge in order to receive "dial up" Internet Access. Over two-thirds of the schools in Tennessee are outside of these areas. AT&T Worldnet, one of the nation's largest ISPs, also does not market Internet Service outside of these four large areas. As a result of the proposed ENA Service and competitive bidding, each of the State's schools will now be able to access the Internet at rates competitive to prices offered in more urban areas of the

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<sup>15</sup> ENA has proposed to offer Services throughout the State of Tennessee to health care providers, libraries and schools, which in turn will utilize its Services to drive Service costs even lower for all users.

<sup>16</sup> The Federal State Joint Board encouraged, and provided for, these types of opportunities. (Universal Service Order at ¶ 341.)



U.S. State and USF funding will make this possible. The extension by an ISP of a network in response to demand, and at the time the demand materializes, does not render this Internet Service ineligible, particularly where (as in Tennessee) there was no other available alternatives! Or choice!<sup>17</sup>

Finally, it should be noted that in structuring its Internet Service Access fees, Tennessee permitted a variety of payment options during the Competitive Bidding, ranging from large "non-recurring" fees to large "recurring fees." As a result of the competitive environment envisioned by the Congress and nurtured by the Commission, such fee structuring has been possible and is "commonplace" outside of residential "dial-up" services. The State selected a combination fee structure because it reflected the "least cost option", as required under the State's Procurement Rules. The ENA Internet Access Service fee does not, from the State's vantage point, reflect either a "purchase fee" or an "installation fee", but rather a State restructuring of the ISP-proposed recurring service charge. The State's fee, structured in this way and annualized, is lower than that of any other comparable ISP "for Internet Service", with or without a non-recurring component, for a similar

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<sup>17</sup> Nor does it render the Service a "network purchase" under either State or Federal law. The State has no more control over the ENA ISP network than any large, influential user. It has no financial control, no operational control, no management control or representation, no legal control, no control of content and no control over growth or utilization, criteria commonly utilized by the Commission for licensees (47 CFR § 25).

Service. The Commission's Rules do not prevent the State from achieving a lower cost service, and from satisfying its own Procurement Rules.

Thus, the structure of a service fee tendered to an ISP cannot be considered determinative of whether an Internet "service" or "facility" is being provided. This is evident not only from the Tennessee situation, but also from the Administrator's record of other USF-funded Services of one-time and recurring costs.

Just as telecommunications service is viewed as "the offering of telecommunications for a fee directly to the public . . . *regardless of the facilities used*,"<sup>18</sup> the Schools and Libraries Corporation ("SLC") indicated that it will not consider the underlying facilities used, when determining whether universal service support will be provided for Internet Access Service. For example, the SLC explicitly stated that even a wide area network, which itself is not a service eligible for support, may be eligible for discounts if it is used to provide the most cost-effective Internet Access.<sup>19</sup> Thus, given that all of the components described above would be used solely to provide Internet Access and, in fact, are necessary to provide "the most efficient and economically feasible access service", the applicable eligibility criteria have

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<sup>18</sup> 47 C.F.R. § 54.5.

<sup>19</sup> SLC Fact Sheet on Wide Area Networks, <[http://www.slcfund.org/reference/471\\_App\\_Guid\\_Docs/470wan.asp](http://www.slcfund.org/reference/471_App_Guid_Docs/470wan.asp)>, Mar. 2, 1998.

been fulfilled and the Administrator's Decision should be modified in this regard.

### **III. The Education Hub Sites Are Not Wide Area Network Facilities**

#### **A. The Definition of a WAN Does not Include the ENA Service**

The Administrator has mischaracterized the hub facilities as "wide area network components" ineligible for universal service support.<sup>20</sup> The Commission defines a WAN as follows:

a voice or data network that provides connections from one or more computers within an eligible school or library to one or more computers or networks that are external to such school or library. Excluded from this definition is a voice or data network that provides connections between or among instructional buildings of a single school campus or between or among non-administrative buildings of a single library branch.<sup>21</sup>

A literal, as well as a comprehensive, reading of this Rule, indicates that the ENA regional ISP network does not constitute a WAN and, hence, its corresponding components do not constitute WAN components. In this regard, the regional hub sites will reside in five (5) geographically dispersed

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<sup>20</sup> Decision, at Point 3, page 5.

<sup>21</sup> 47 C.F.R. § 54.500(l). Additionally, the SLC has defined a WAN as "a data communications network typically extending a LAN [local area network] outside a building, over links to other LANs in remote buildings in other cities." Schools and Libraries Eligibility List, <[http://www.slcfund.org/reference/471\\_App\\_Guid\\_Docs/471OReliglist.asp](http://www.slcfund.org/reference/471_App_Guid_Docs/471OReliglist.asp)>.

areas and each site will contain two large routers and accompanying caching server equipment in order to provide the routing of Internet access traffic and more secure, web-based e-mail capabilities, virtual reserve desks, and custom security. The hubs, then, provide a connection from the individual schools *to the Internet*. The hubs do *not* provide a direct connection between or among schools. Although the schools may be able to communicate with each other *via the Internet*, the ENA network is not designed to provide, and cannot provide, direct connections between or among schools and, hence, cannot be characterized as a WAN.

Furthermore, by stating that the proposed services are ineligible "because purchased wide area network components are not eligible for support,"<sup>22</sup> the Administrator has inappropriately characterized the ENA Internet service as a "telecommunications service." The Commission's Rules prohibit the applicability of universal service support for the "purchase" by the State of WANs, but only "[t]o the extent that States, schools or libraries build or purchase a wide area network *to provide telecommunications*

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<sup>22</sup> Decision, at Point No. 3, page 5.

*services.*"<sup>23</sup> In contrast, a WAN "used to provide access to the Internet may be eligible for discounts."<sup>24</sup>

The ENA network will not be used or constructed to provide "telecommunications services," as that term is defined by the Commission, but, rather only, for Internet Access similar to those others receiving USF support in other States. The Commission has clearly stated that Internet Access *does not* constitute "telecommunications service."<sup>25</sup> Because ENA is not providing a "telecommunications service", the ban on eligibility for support for WANs simply does not apply. Thus, the ENA network is not an ineligible WAN under the Rules.

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<sup>23</sup> 47 C.F.R. § 54.518. Additionally, the Commission has stated that WANs "provide broad-based *telecommunications*, "rather than merely Internet access. In the Matter of Federal-State Joint Board on Universal Service, Fourth Order on Reconsideration in CC Docket No. 96-45, Report and Order in CC Docket Nos. 96-45, 96-262, 94-1, 91-213, 95-72, 13 FCC Rcd 5318, at ¶ 193 (1997).

<sup>24</sup> SLC Fact Sheet on Wide Area Networks, <[http://www.slcfund.org/reference/471\\_App\\_Guid\\_Docs/470wan.asp](http://www.slcfund.org/reference/471_App_Guid_Docs/470wan.asp)>, Mar. 2, 1998.

<sup>25</sup> See, e.g., Universal Service Order, at ¶ 594; Universal Service Report to Congress, at ¶¶ 33-48. See also 47 U.S.C. § 231 (defining "Internet Access Service" as "a service that enables users to access content, information, electronic mail, or other services offered over the Internet, and may also include other services as part of a package of services offered to consumers. *Such term does not include telecommunications services.*")

**B. Even if the Tennessee Service includes a WAN component, it remains eligible for support.**

Even if the ENA network included a component that was considered to constitute a WAN, the "leasing" of the WAN to provide Internet Access would still be eligible for universal service support. The SLC has explicitly stated that:

A wide area network leased from service providers...that is used to provide access to the Internet may be eligible for discounts, to the extent that the leasing of the wide area networks is the most cost effective means of Internet access. Under this scenario, the key consideration is that the facilities must be *leased* from the service provider, rather than purchased by the customer. The price of Internet access which includes the leased wide area network service must be shown to be the most cost-effective means of obtaining the Internet access at the bandwidth connection provided over the network.<sup>26</sup>

The State of Tennessee, acting through and pursuant to its Competitive Procurement Laws (TN Code Annotated, Section 12-4-109) has found the ENA service to be the most cost effective for the service requested.<sup>27</sup> The ENA service will provide Tennessee Schools with unlimited access to the Internet for under \$1,000 per month per school (or for \$1.97 per student), supporting 96,000 computers, which reflect School System investment already in place. This is a savings in excess of \$100,000,000

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<sup>26</sup> SLC Fact Sheet on Wide Area Networks.

<sup>27</sup> The State has also found it to be a "service" as contrasted to a "facility", through its State Procurement method. (TN Code Annotated, Section 12-11-109). See, also, page 9, above.

over other commercially available Internet services. The Administrator has confirmed the State's Competitive Procurement Process and conclusions. (Decision Point No. 1, page 2). Because any facilities that could be characterized as a WAN would be used solely to provide Internet Access, and because it has been shown that including such facilities is the most cost effective means of obtaining such access, the Administrator's Decision in this regard must be rejected.

**C. Establishing a one-time "setup fee" or "lease charge" does not render the service ineligible as a WAN service**

The SLC has stated that when determining whether a proposed system constitutes a WAN, "the key consideration is that the facilities must be *leased* from a service provider, rather than purchased by the customer."<sup>28</sup> Merely establishing a one-time service fee or lease charge fee for Internet Access Service at each school, however, does not constitute "purchasing" of facilities from the service provider, or change the nature of the Service.

The State, as noted above, did not fund ENA's purchase or "purchase" the hub facilities of ENA, even though the Internet Access Service the schools acquired from ENA will carry both a recurring and non-recurring charge. The non-recurring "one-time" charge of \$1,000 per school, also as noted above, should be considered at most an "initiation of service fee", a

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<sup>28</sup> SLC Fact Sheet on Wide Area Networks, dated March 2, 1998 at <[http://www.slc.fund.org/Reference/470\\_App\\_Guid\\_Docs](http://www.slc.fund.org/Reference/470_App_Guid_Docs)>.

common ISP practice in the industry. It goes without saying that this fee does not "reimburse" or "fund" the ISP for its cost of either the Internet Service or the equipment necessary to initiate it. Rather, it represents a reasonable charge to discourage frivolous requests for service on behalf of an ISP and a way to reduce interest "carrying charges" and continuing recurring costs, by the schools.

#### **IV. Caching Servers and Routers are an Integral Component of ENA's Internet Access Service**

The Administrator found that "caching servers" were "not internal connections, because they did not transport information all the way to individual classrooms."<sup>29</sup> On the contrary, caching servers not only are part of the Internet Access Service, but also are integral to the ISP network. For these reasons, and as set forth above, caching servers should be considered as part of Internet Access Service, which is eligible for universal service support.

Caching servers (as contrasted to "file servers") allow for the "transmission of information as part of a gateway to an information service."<sup>30</sup> Caching servers increase the efficiency of accessing information on the Internet by storing the most frequently accessed at various points

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<sup>29</sup> Decision at Point No. 4, page 6.

<sup>30</sup> 47 C.F.R. § 54.5 (definition of "Internet access").



within the ISP network, closer to the requesting site than to the source, thus relieving bandwidth requirements. Moreover, caching servers are used by many ISPs as a means to provide quality service and performance to end-users.<sup>31</sup> In fact, ENA's proposal was selected over other offers partly because of its continuing caching approach. ENA's long-term vision in avoiding bandwidth congestion and increasing the speed for site access ensures that students efficiently use their time on the Internet, ultimately allowing more students to access information.

From a practical and policy perspective, caching servers also cannot, and therefore should not, be separated from the characterization of Internet Access Service. There is a direct "trade-off" between the need for greater telecommunications lines and the installation and location of caching servers in an ISP service. Caching is not only an investment as a trade-off with bandwidth costs, but also assures that the Internet Service does not crash when exceedingly high volumes occur due to special events, such as the

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<sup>31</sup> Chris Oakes, *What it Takes to be Fastest*, Wired News, Jan. 28, 1999; Robert E. Lee, *Caching to Relieve Bandwidth Congestion; How do Emerging Caching Solutions Work? What are Considerations for Designing an Effective Cache Infrastructure?*, Sun World (June 1998). See, also, Merit Internet Web Cache Project at <<http://www.merit.edu.cache>>.

To the extent that routers may also be considered "internal connections", those contained in the ENA are not functioning as "internal connections" and they "look" exclusively at the Internet, not at the classroom. Indeed, the school's local area network ("LAN") is operated by the school independent of this router.

Congressional distribution of the Starr Report. An ISP service which has no caching will be required to increase its charges due to large and expensive telecommunications lines if it is to maintain the same service as computers are added. On the other hand, an ISP service, such as that offered by ENA, that strategically and regularly evaluates and upgrades its caching requirements and locations, reduces its telecommunication costs immensely, and at the same time improve service quality. This lower cost structure is significant when providing Internet Service for schools because school users typically go to many of the same sites over-and-over (*e.g.*, to study an historical figure in many subsequent classes), as contrasted to typical business users that are more likely to need constantly changing information (*e.g.*, stock quotes). The benefits that flow from the use of caching is precisely the reason why the Joint Board recommended that the transport and information processing functions of the ISP not be desegregated and why the ENA ISP network situation was selected.<sup>32</sup> In short, "[c]aching . . . advances core Internet values: the cheap and speedy retrieval of information."<sup>33</sup>

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<sup>32</sup> Universal Service Order, at ¶ 80.

<sup>33</sup> *American Civil Liberties Union v. Reno*, 929 F. Supp. 824, 848 (E.D. Pa. 1996). Here it should be noted that the "Eligibility List" used by the Administrator for the initial classification of services as either "Internet Access" or "Wide Area Networks", for example, is useful only for program integrity purposes, and guidance purposes. This List fails, for example, (continued...)

## **V. The Use of "Recycled " Equipment has no Bearing on the Characterization of the Service Provided**

The Administrator denied the eligibility for certain because it found that these funding requests represented equipment "purchased prior to January 1, 1998."<sup>34</sup> The Administrator reasoned that, these lines did not represent basic Internet Service.

The Commission's Rules clearly state that "[t]he administrator shall not approve funding for *service received* by a school or library before January 1, 1998."<sup>35</sup> The Rule does not mention or discuss by what date the underlying elements used to provide that service should be purchased. Given the clear language of the statute, the SLC's broadening of the restriction to apply to underlying elements was misplaced.<sup>36</sup> Hence, the Administrator's denial

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<sup>33</sup>(...continued)

to classify or recognize routers and caching servers as eligible components of either Internet Access Services or eligible WANs. It also fails to recognize that service fee structuring plans do not change the character of a service and render an eligible service otherwise ineligible. Finally, it fails to distinguish between a "purchase" and the use of the "market power" by schools to command ISP funding of more efficient and more effective new facilities in a competitive environment. The Commission's Rules, on the other hand, expected schools to join together in this fashion and to utilize their funding leverage to achieve the "most efficient" services.

<sup>34</sup> Decision Point No. 2, page 3.

<sup>35</sup> 47 C.F.R. § 54.507(f).

<sup>36</sup> See Commonly Asked Questions - Set III, dated Feb. 24, 1998 (stating that the fund administrator "will not authorize the disbursement of (continued...)

should be reversed as not implementing the Commission's Rules, on this basis alone. Furthermore, from a practical and policy perspective, it also is clear that the Commission did not intend for the deadline for the provision of services to apply equally to underlying Service elements.

Moreover, from a practical and common sense perspective, the State submitted a request for support of basic Internet Access, resulting from its move to an Internet Service. Funding Request Line 1 requests support for the initiation of this Service at \$1,000 per school. Line two (2) requests support on a monthly basis of \$182.93 per school per month for Internet Access. Line three (3) requests support on a monthly basis of \$153.21 per school per month for the telecommunications service to reach the regional Internet Access Provider and the telecommunications service within Tennessee to reach the national Internet Service Provider. Combining, lines 2 and 3 requests a total of \$336.14 per school per month or \$.67 per student per month for Internet Access. With an average of over 50 computers per school receiving this access, the cost averages \$6.23 per computer per month, considerably less than most providers.

This level of service from these three lines supports a network of over 96,000 computers. Each school has access, however, because the

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<sup>36</sup>(...continued)

discounts on *facilities* or services originally acquired or purchased prior to January 1, 1998.") (emphasis added).

telecommunications line is only a connection of 128k, service is insufficient for the number of computers which now average between 50 and 150 per school. Thus, the network is not sufficiently reliable for instruction, although basic access to the Internet is being delivered.

Expansion to more reliable service and sufficient capacity is requested in the remaining lines of the funding request and support by the earlier sections of this pleading.

While desiring to expand the network, Tennessee Schools did not want to be without any Internet Service while upgrades were occurring. Hence, it was a requirement that the new provider deliver this basic services as of July 1, 1998. ENA is delivering this service at the least cost which was determined through the State's Competitive Bidding Process.

## **VI. The Tennessee Service is in the Public Interest**

### **A. The Intent and Purpose of the Rules has been Achieved**

The "public interest", which is the guiding principle of the Commission's purpose, dictates that Tennessee's 900,000 public school children have access to the Internet with support from the Universal Service Fund! Any other result would violate the "public interest" and encourage a "digital-divide" for all Tennessee students. Without such funding, school children in Tennessee's rural and remote areas, in most need of such access,

and the children which the USF specifically was designed and intended to serve, will be harmed beyond their ability to recover.

Tennessee school children will suffer a major set-back in their education and in their growth to becoming educated and trained for their futures. The public interest requires that every human effort be made to serve these children equitably and fully, as Congress and the Commission intended and proposed. The Commission has at its discretion, unlike the Administrator, the ability to determine what is "in the public interest." This should be done, regardless of all other factors and any technical nuances.

As the Administrator has recognized, Tennessee has followed its State Procurement Rules and the Commission's Internet Access Service Competitive Posting Rules "to the letter." It has awarded a contract for "Internet Access Services", which are clearly eligible under the Rules, to an Internet Access Provider (ENA), which is a well-recognized and highly regarded "Regional ISP." It has negotiated a fee structure which provides, or rather guarantees, that Tennessee Schools will receive a high quality Internet Service in the "most cost-effective means", when compared not only with local and regional alternatives, but with national services already funded by the USF. The Internet Access costs paid by Tennessee are among the lowest in the nation on a per child basis (\$1.97). The Commission's Rules clearly and unequivocally are designed to achieve the results achieved by

Tennessee. Thus, the intent of the Rules has been achieved, along with the letter, and thus support should be granted.

**B. The Administrator Regularly and Consistently Funded Similar Services.**

Furthermore, the equitable application of the Commission's Rules also would support a determination in the State's favor in order to avoid an "arbitrary and discriminatory " result contrary to the "public interest." In this regard, the Administrator has "consistently and regularly" funded similar Applications in many schools in many States. Judicial Notice should be taken of this fact. This has ranged from "data links" for an ISP in Kentucky, to "non-recurring " ISP equipment costs in Georgia, to "managed networks" in Florida, to specific "major facility construction" in Alabama, to "Tier IV" ISPs in Virginia, to ISP-based "local routers" and "caching servers" in Michigan.<sup>37</sup> These are not isolated examples, but rather an indication of a "course-of-conduct" supportive to the Tennessee Application, despite the Administrator's Decision to the contrary.

Why then have Tennessee children been denied support to this date? Tennessee submits that this is not because of any real question of legal eligibility or public interest. Rather, this denial results from a disgruntled bidder that has thrust itself into the void of precedent at a time of transition,

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<sup>37</sup> See Attachment 1 hereto, by way of example.

in both the Commission's Rules and the evolving Internet practices. This disgruntled bidder's purpose was to achieve a competitive advantage, which it failed to achieve in its deceptive response to the State's RFP. In brief, there is no State purchase of an ineligible WAN or ineligible internal connections here. This has been clearly established. The public interest, and the nation's children deserve better. They deserve the Internet Access Congress mandated and the Commission has adopted.

## **VII. Conclusion**

For the foregoing reasons, Tennessee's Application should be granted enabling Tennessee children Internet Access Service support from the U.S.F.

Respectfully submitted

/s/ Jane Walters  
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March 29, 1999



## **AFFIDAVIT**

I, JACKIE SHRAGO, the undersigned, do hereby declare under penalty of perjury that the facts contained in the foregoing "Request for Review" of the Tennessee Department of Education are true and correct to the best of my knowledge, information and belief informed after reasonable inquiry.

/s/ Jackie Shrago  
Jackie Shrago

Executed on this 29th day of March, 1999.

## CERTIFICATE OF SERVICE

I, Christine L. Zepka, hereby certify that copies of the foregoing Request for Review of the State of Tennessee were mailed, postage prepaid, on this 29th day of March, 1999, via first class mail, to the following individuals at the address listed below:

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